

REMARKS

Claims 1-47 are currently pending in this application. Applicants thank the Examiner for the further attention given to this application.

§102 REJECTIONS

Claims 1-47 are rejected as being anticipated by Bachmat (U.S. Patent No. 6,122,685. Applicants respectfully traverse this rejection. It is submitted that amended independent claims 1, 21 and 36 along with the claims, which depend therefrom, are fully distinguished from this reference.

To anticipate a claim under 35 U.S.C. sections 102(a), (b), or (e), the reference must teach each and every element as set forth in the claim, either expressly or inherently described, in a single prior art reference." (Emphasis added) (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631; see also MPEP 2131.) "The identical invention must be shown in as complete detail as is contained in the claim." (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); see also MPEP 2131.) Further, any claim depending from base claims not anticipated or made obvious by the prior art also are not anticipated or made obvious by the prior art since the dependent claims comprise all of the elements of the base claim.

The Bachmat patent does not teach each and every element of independent claims 1, 21 and 36 as discussed below. Thus, Applicants respectfully request that the Examiner issue a notice of allowance for claims 1-47.

i. Independent claim 1 and dependent claims 2-20.

Independent claims 1 is not anticipated or obvious in view of Bachmat since

Bachmat fails to teach or suggest each and every element of the claims.

Referring to claim 1, Bachmat fails to teach or suggest a system for dynamic allocation of data where the system is comprised of a reference container for directing data into a location in a storage object and where the reference container comprises a publishing point which contains a virtual mapping system that directs the data into an entry in the storage object. As indicated in the specification in paragraph 13, "the reference container is a specialized container called a publishing point that contains reference objects which are any well defined set of bits (1's and 0's), that indicate the location or address of the data object in the data container." This allows for a list/record of the capacity consumption of each container in the storage system to be maintained and based upon this list, the system stored data in the container in which storage would be optimized. If the system sees that the amount of data in a container is too close to its capacity, it will allocate additional space for the container.

On the other hand, Bachmat is directed toward a method and apparatus for reconfiguring a file or logical volume stored on a magnetic disk storage system for optimal performance. The magnetic disk storage system contains a cache volume constituted as free storage. When appropriate, a file can be copied from its normal storage location to the cache volume with a different format to optimize the file for subsequent operations. The whole patent is focused on changing the format of data so that it will fit into storage. After such operations are complete, the file can be transferred from the cache volume back to the normal storage location in the original format. (See abstract) The cache controller reads data into memory where the data is changed and stored in a temporary location, not a permanent location. In other words the storage of the data is exceedingly transient, so transient that it will typically only stay in the temporary location for a matter of milliseconds. Bachmat deals with data at a block level while the present invention deals with data at a file level.

Bachmat does not teach or suggest a system comprising a publishing point, which contains a virtual mapping system that directs the data into an entry in the

storage object as is described and claimed in the present invention. The Office Action references column 7, lines 24-28 as identifying a publishing point as described in the present invention. Although column 7, lines 24-28 identifies steps in a method that selects the location for the cache volume, it does not teach or suggest the publishing point described in the present invention. The publishing point of the present invention creates a virtual mapping system, which allows for the management of storage capacity on the minimum and utilized capacity rather than the allocated capacity based upon an allocated block of space as is described in Bachmat.

Therefore, Applicants' invention, as claimed in independent claim 1 is different than the cited prior art (Bachmat) in that in the present invention utilizes a publishing point to create a virtual mapping system, which allows for the management of storage capacity on the minimum and utilized capacity of a system and not based on an allocated block of space as is typically done.

ii. Independent claim 21 and dependent claims 22-35.

Independent claim 21 is not anticipated or obvious in view of Bachmat since Bachmat fails to teach or suggest each and every element of independent claim 21.

Referring to independent claim 21, Bachmat fails to teach or suggest a method of dynamically allocating data in a file system where data to be relocated is detected in a source container, the data is transferred to transfer space in a target container and the data is then transferred to the data space of the target container

As discussed earlier, Bachmat is directed toward a method and apparatus for reconfiguring a file or logical volume stored on a magnetic disk storage system for optimal performance. The magnetic disk storage system contains a cache volume constituted as free storage. When appropriate, a file can be copied from its normal storage location to the cache volume with a different format to optimize the file for subsequent operations. The whole patent is focused on changing the format of data so that it will fit into storage. After such operations are complete, the file can be transferred from the cache volume back to the normal storage location in the original format. (See

abstract) The cache controller reads data into memory where the data is changed and stored in a temporary location, not a permanent location. In other words the storage of the data is exceedingly transient, so transient that it will typically only stay in the temporary location for a matter of milliseconds. Bachmat deals with data at a block level while the present invention deals with data at a file level.

Nowhere does Bachmat teach or suggest a method of dynamically allocating data by storing data in a source container that is to be relocated, transferring data to transfer space of a target container and ultimately transferring the data from the transfer space of the target container to the data space of the target container. The Office Action refers to column 8, lines 1-10 as allegedly illustrating this method. However, in column 8, lines 1-10, what is described is part of a method where data is copied into a new location in an alternative format and then transferred to a BCV device. This method in Bachmat does not include storage of data in one container, transfer data to a temporary location in a second container and then finally transferring the data to a permanent location in the second container. Furthermore, Bachmat transforms the data into an alternative format which is a key to that invention and the system and method of the present invention does not alter the format of data.

Therefore, Applicants' invention, as claimed in independent claim 21 is different than the cited prior art in that in the present invention dynamically allocating data by storing data in a source container that is to be relocated, transferring data to transfer space of a target container and ultimately transferring the data from the transfer space of the target container to the data space of the target container.

iii. Independent claim 36 and dependent claims 37-47.

Independent claim 36 is not anticipated or obvious in view of Bachmat since Bachmat fails to teach or suggest each and every element of independent claim 36.

Referring to independent claim 36, Bachmat fails to teach or suggest a method of dynamically allocating data in a file system where data is entered into an input device and storing the data object in a publishing point, assigning a reference object to the

data and relocating the data to a transfer space of a data container chosen from a plurality of data containers.

As discussed earlier, Bachmat is directed toward a method and apparatus for reconfiguring a file or logical volume stored on a magnetic disk storage system for optimal performance. The magnetic disk storage system contains a cache volume constituted as free storage. When appropriate, a file can be copied from its normal storage location to the cache volume with a different format to optimize the file for subsequent operations. The whole patent is focused on changing the format of data so that it will fit into storage. After such operations are complete, the file can be transferred from the cache volume back to the normal storage location in the original format. (See abstract) The cache controller reads data into memory where the data is changed and stored in a temporary location, not a permanent location. In other words the storage of the data is exceedingly transient, so transient that it will typically only stay in the temporary location for a matter of milliseconds. Bachmat deals with data at a block level while the present invention deals with data at a file level.

Nowhere does Bachmat teach or suggest a method of dynamically allocating data in a file system where data is entered into an input device and storing the data object in a publishing point, assigning a reference object to the data and relocating the data to a transfer space of a data container chosen from a plurality of data containers.

The Office Action refers to figures 1 and 3, column 7, lines 24-48 and column 8, lines 1-10 as allegedly illustrating this method. Although Figure 1 illustrates entering data in an input device, column 7, lines 24-28 do not describe a publishing point or assigning a reference object to the data as defined in the present invention. Although column 7, lines 24-28 identifies steps in a method that selects the location for the cache volume, it does not teach or suggest the publishing point described in the present invention. The publishing point of the present invention creates a virtual mapping system, which allows for the management of storage capacity on the minimum and utilized capacity rather than the allocated capacity based upon an allocated block of space as is described in Bachmat. Furthermore, as described previously, in column 8,

lines 1-10, what is described is part of a method where data is copied into a new location in an alternative format and then transferred to a BCV device and not relocating data to a transfer space chosen from a plurality of data containers. This method in Bachmat does not include storage of data in one container, transferring the data to a temporary location in a second container and then finally transferring the data to a permanent location in the second container. Furthermore, Bachmat transforms the data into an alternative format which is a key to that invention and the system and method of the present invention does not alter the format of data.

Therefore, Applicants' invention, as claimed in independent claim 36 is different than the cited prior art in that in the present invention dynamically allocating data by storing data in a source container that is to be relocated, transferring data to transfer space of a target container and ultimately transferring the data from the transfer space of the target container to the data space of the target container

V. CONCLUSION

In view of the above, Applicants respectfully request reconsideration of the application and allowance of independent claims 1, 21 and 36 and subsequently claims 2-20, 22-35 and 37-47 which depend therefrom. If the Examiner believes that a telephone conference with Applicants' representative might expedite prosecution of the application, he is cordially invited to call at the number listed below.

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